



Формулы сокращенного умножения

Алгебра 7 класс

Квадрат суммы

$$\left(\triangle + \square \right)^2 = \triangle^2 + 2\triangle \cdot \square + \square^2$$

$$\left(x + y \right)^2 = x^2 + 2xy + y^2$$

$$\left(2x + 3y \right)^2 = (2x)^2 + 2 \cdot 2x \cdot 3y + (3y)^2$$

$$\begin{aligned} (2x + 3y)^2 &= (2x)^2 + 2 \cdot 2x \cdot 3y + (3y)^2 = \\ &= 4x^2 + 12xy + 9y^2 \end{aligned}$$

Квадрат разности

$$\left(\triangle - \square \right)^2 = \triangle^2 - 2\triangle \cdot \square + \square^2$$

$$\left(x - y \right)^2 = x^2 - 2xy + y^2$$

$$\left(2x - 3y \right)^2 = (2x)^2 - 2 \cdot 2x \cdot 3y + (3y)^2$$

$$\begin{aligned} (2x - 3y)^2 &= (2x)^2 - 2 \cdot 2x \cdot 3y + (3y)^2 = \\ &= 4x^2 - 12xy + 9y^2 \end{aligned}$$

Разность квадратов

The diagram illustrates the difference of two squares as a difference of two products. On the left, a blue triangle and a blue square are separated by a minus sign, enclosed in a black vertical bar. To the right, a blue triangle and a blue square are separated by a plus sign, also enclosed in a black vertical bar. These two expressions are separated by an equals sign. Blue curved lines connect the top of the triangle in the first product to the top of the triangle in the second product, and the top of the square in the first product to the top of the square in the second product. A green curved line connects the bottom of the triangle in the second product to the bottom of the square in the first product, indicating the shared width of the overlapping rectangle.

The diagram shows the expansion of the difference of two squares. It starts with a blue triangle followed by a plus sign and a red superscript '2'. This is followed by a plus sign, a blue triangle, a dot, a blue square, a minus sign, a blue square, a dot, a blue triangle, a minus sign, and a blue square followed by a red superscript '2'. Two red diagonal lines cross out the terms $\triangle \cdot \square$ and $\square \cdot \triangle$, indicating they cancel each other out.

Разность квадратов

$$\left(\triangle - \square \right) \left(\triangle + \square \right) = \triangle^2 - \square^2$$

$$\left(x + y \right) \left(x - y \right) = x^2 - y^2$$

$$\left(2x + 3y \right) \left(2x - 3y \right) = (2x)^2 - (3y)^2$$

$$\begin{aligned} (2x + 3y)(2x - 3y) &= (2x)^2 - (3y)^2 = \\ &= 4x^2 - 9y^2 \end{aligned}$$